**REMARKS**

Reconsideration and allowance are respectfully requested. Claims 13-25 are currently pending. Claims 13-20 and 23-25 were rejected. Applicants thank the Examiner for allowing Claims 21 and 22. Claims 13 and 17 have been amended. No new matter has been entered. Based on the claim amendments and following remarks, it is believed that all pending claims are in condition for allowance and a notice to that affect is respectfully requested.

I. §103(a) Rejection based on Takeuchi and Hong

Claims 13-18, 23 and 24 were rejected under 35 U.S.C. §103(a) as being unpatentable over U.S. Patent No. 6,141,061 to Takeuchi in view of U.S. Patent No. 5,706,063 to Hong. Based on the following remarks, Applicants respectfully traverse this rejection.

A. Prosecution History

The prior Office Action of November 5, 2003 generally rejected the claims on the basis of the prior art combination of Takeuchi and Hong. Applicants argued in their Response of February 4, 2004 that, unlike the present invention, Takeuchi discloses a significantly different process for reducing and enlarging a projected image which does not even rely on the use of a color switch for selecting and displaying a specific color. Additionally, the Office Action acknowledged that Takeuchi "does not teach a single polarizer image display projector wherein white or color data are inserted among the data of the R, G and B color tones".

Similarly, Applicants' previous Response also discussed in detail how the present invention distinguishes over Hong. It was specifically noted that the present invention inserts black or white signal components among the RGB components of a color signal in order to improve the contrast levels of a projected image. Example signal (f) of Applicants' Figure 4 illustrates one such color signal that contains white or black

signal components inserted amongst the RGB components of the color signal.

It was revealed in Applicants' prior Response that, unlike the present invention, the reference of Hong does not disclose a projection system that inserts black or white signal components among the RGB components of a color signal. Instead, Hong generates a color signal and a completely separate and independent black-and-white signal. Each of these two separate signals of Hong are simultaneously projected onto a screen in such a manner that a black-and-white image produced by the black-and-white signal is superimposed, or placed on top of, the color image projected onto the screen by the color signal.

B. The Invention According to Amended Claim 13

The current Office Action continues to assert the previous rejection of Claims 13-18, 23 and 24 on the basis of Takeuchi in view of Hong. The Office Action acknowledges the present invention's unique method of inserting black or white signal components amongst the R, G and B signal components of a color signal, as illustrated in the example signal (f) of Figure 4. However, the Office Action further indicates that Claim 13, as previously amended, does not adequately recite the above-identified unique feature, instead it "merely states a means for inserting a white color or black color among displayed gradations of RGB lights". Accordingly, the Action asserts that Hong reads upon this feature of the present invention as Hong "teaches how one color image is formed from two different images". See page 8, first paragraph, of the May 4, 2004 Office Action.

In response to the above-identified concerns raised in the Office Action, independent Claim 13 has been amended to incorporate the mean luminance calculation circuit and white/black color insertion timing control circuit of dependent Claim 17. An additional amendment to Claim 13, made for clarification purposes only, now specifies that each

period of the color information signal is comprised of a series of signal components, including an R, G or B color information signal component in sequence with a white/black color information signal component.

Claim 13, as amended, now calls for a single polarizer image display projector that comprises, among other things:

> a mean luminance calculation circuit for calculating the mean luminance of picture element data outputted from the image processing circuit; and
>
> a white/black color insertion timing control circuit for receiving triggers for R, G and B colors, respectively, and generating a white/black color insertion timing signal, wherein the white/black color insertion timing control circuit, in response to the R, G and B triggers and white/black color insertion timing signal, generates a color information signal that synchronizes with each trigger, with each synchronized period of the color information signal comprising a sequence of signal components, including an R, G or B color information signal component corresponding to the synchronized trigger in sequence with a white/black color information signal component derived from the mean luminance of the picture element to be displayed

(emphasis added).

C. The References of Takeuchi and Hong

In contrast to the invention as called for by amended Claim 13, neither Takeuchi nor Hong teach or suggest a single polarizer image display projector that includes "a white/black color insertion timing control circuit for receiving triggers for R, G and B colors, respectively, and generating a white/black color insertion timing signal". Indeed, as previously noted, the Office Action acknowledges that Takeuchi "does not teach a single polarizer image display projector wherein white or color data are inserted among the data of the R, G, and B color tones". Similarly, Hong also fails to teach or suggest a projection system that includes a white/black color insertion timing control circuit that receives triggers

for the R, G and B colors and generates a white/black color insertion timing signal.

Additionally, neither prior art reference teaches or suggests a projection system wherein "each synchronized period of the color information signal comprises a sequence of signal components, including an R, G or B color information signal component corresponding to the synchronized trigger in sequence with a white/black color information signal component". Instead, Takeuchi simply discloses an image reduction and enlargement process for a conventional projection system. Hong, as previously discussed, does not disclose the insertion of a black/white signal component amongst the RGB components of a color information signal, but instead, generates two separate and independent signals, including a color signal and a black-and-white signal. Hong then converts each of these two separate signals into analog, optical signals that are simultaneously projected upon a display in such a manner that the images generated by the two separate signals become superimposed upon one another.

For the above reasons, Applicants believe that independent Claim 13, along with Claims 14-18, 23 and 24 dependent therefrom, are allowable over the references of Takeuchi and Hong, taken either individually or in combination.

II. §103(a) Rejection based on Takeuchi, Hong and Satake

Dependent Claims 19, 20 and 25 continue to be rejected under 35 U.S.C. §103(a) as being unpatentable over Takeuchi and Hong in view of U.S. Patent No. 6,904930,052 to Satake et al. Based on the following remarks, Applicants respectfully traverse this rejection.

The Office Action asserts that the combined references of Takeuchi and Hong disclose the invention as claimed except for a D/A conversion circuit, and that the addition of such a circuit would have been obvious in view of Satake. However, as discussed above, neither Takeuchi nor Hong disclose the use

of a white/black color insertion timing control circuit, nor the generation of a signal that is comprised of a white/black color information signal component placed in sequence with a R, G or B color information signal component.

The additional disclosure of Satake focuses on a new type of LCD screen, and is not even directly concerned with a projector system. Accordingly, Satake fails to cure the deficiencies of Takeuchi and Hong, as noted above. For the above reasons, Applicants believe that Claims 19, 20 and 25 are allowable over the references of Takeuchi, Hong and Satake, taken either individually or in combination.

All objections and rejections having been addressed, it is respectfully submitted that the present application is in condition for allowance, and a Notice to that effect is earnestly solicited.

Respectfully submitted,

FOR Terryence F. Chapman

TFC/T/cc


| | | |
|---|---|---|
| FLYNN, THIEL, BOUTELL & TANIS, P.C. | Dale H. Thiel | Reg. No. 24 323 |
| 2026 Rambling Road | David G. Boutell | Reg. No. 25 072 |
| Kalamazoo, MI 49008-1631 | Ronald J. Tanis | Reg. No. 22 724 |
| Phone: (269) 381-1156 | Terryence F. Chapman | Reg. No. 32 549 |
| Fax: (269) 381-5465 | Mark L. Maki | Reg. No. 36 589 |
| | → Liane L. Churney | Reg. No. 40 694 |
| | Brian R. Tumm | Reg. No. 36 328 |
| | Steven R. Thiel | Reg. No. 53 685 |
| | Donald J. Wallace | Reg. No. 43 977 |
| | Sidney B. Williams, Jr. | Reg. No. 24 949 |


Encl: Post Card

136.05/04